

WHAT IS CLAIMED IS:

1. A polymer complex comprising the reaction product of one or more
polymers having a terminal or pendant hydroxyl group, or a terminal or
pendent carboxyl group, or combinations thereof, with at least one metal
complex and at least one alkyl phosphate.
2. The polymer complex of Claim 1, wherein said metal complex is metal
orthoester.
3. The polymer complex of Claim 2, wherein said metal orthoester has the
formula $\text{metal}(\text{OR})_4$, wherein each of the four R groups is independently
an alkyl group.
4. The polymer complex of Claim 3, wherein said alkyl group is a C_1 to C_8
alkyl group.
5. The polymer complex of Claim 3, wherein said alkyl group is a C_3 to C_4
alkyl group.
6. The polymer complex of Claim 2, wherein said metal orthoester is
tetrakisopropyltitanate.
7. The polymer complex of Claim 1, wherein said alkyl phosphate is a
monoalkyl phosphate having
the formula $\text{R}_1\text{PO}(\text{OH})_2$ or a dialkylphosphate having the formula
 $(\text{R}_2\text{O})(\text{R}_3\text{O})\text{PO}(\text{OH})$, wherein each of R_1 , R_2 and R_3 is independently an
alkyl.
8. The polymer complex of Claim 7, wherein said alkyl group is a C_1 to C_{10}
alkyl group.
9. The polymer complex of Claim 7, wherein said alkyl group is a C_1 to C_5
alkyl group.
10. The polymer complex of Claim 1, wherein said alkyl phosphate is amyl
acid phosphate.
11. The polymer complex of Claim 1, wherein said polymer is natural or
synthetic polymer.
12. The polymer complex of Claim 1, wherein said polymer is selected from
the group consisting of polyurethane, polyurethane-urea, polyamide,
polyester, polyacrylate, nitrocellulose and ketone-formaldehyde
copolymer.

- 305 13. An adhesion promoting agent in an ink or coating composition comprising the reaction product of one or more polymers having a terminal or pendant hydroxyl group, or a terminal or pendent carboxyl group, or combinations thereof, with at least one metal complex, and at least one alkyl phosphate.
14. The adhesion promoting agent of Claim 13 wherein said agent also
310 promotes viscosity stability in an ink or coating composition.
15. The agent of Claim 13, wherein said metal complex is metal orthoester.
16. The agent of Claim 15, wherein said metal orthoester has the formula metal(OR)_4 , wherein each of the four R groups is independently an alkyl group.
- 315 17. The agent of Claim 16, wherein said alkyl group is a C_1 to C_8 alkyl group.
18. The agent of Claim 16, wherein said alkyl group is a C_3 to C_4 alkyl group.
19. The agent of Claim 15, wherein said metal orthoester is tetraisopropyltitanate.
20. The agent of Claim 13, wherein said alkyl phosphate is a monoalkyl
320 phosphate having the formula $\text{R}_1\text{PO(OH)}_2$ or a dialkylphosphate having the formula $(\text{R}_2\text{O})(\text{R}_3\text{O})\text{PO(OH)}$, wherein each of R_1 , R_2 and R_3 is independently an alkyl.
21. The agent of Claim 20, wherein said alkyl group is a C_1 to C_{10} alkyl group
22. The agent of Claim 20, wherein said alkyl group is a C_1 to C_5 alkyl group.
- 325 23. The agent of Claim 13, wherein said alkyl phosphate is amyl acid phosphate.
24. The agent of Claim 13, wherein said polymer is natural or synthetic polymer.
25. The agent of Claim 13, wherein said polymer is selected from the group
330 consisting of polyurethane, polyurethane-urea, polyamide, polyester, polyacrylate, nitrocellulose and ketone-formaldehyde copolymer.
26. An ink or coating composition containing an adhesion promoting agent comprising the reaction product of one or more polymers having a terminal or pendant hydroxyl group, or a terminal or pendent carboxyl group, or combinations thereof, with at least one metal complex and at least one
335 alkyl phosphate.
27. The composition of Claim 26, wherein said metal complex is metal orthoester.

- 340 28. The composition of Claim 27, wherein said metal orthoester has the formula metal(OR)_4 , wherein each of the four R groups is independently an alkyl group.
29. The composition of Claim 28, wherein said alkyl group is a C_1 to C_8 alkyl group.
- 345 30. The composition of Claim 28, wherein said alkyl group is a C_3 to C_4 alkyl group.
31. The composition of Claim 27, wherein said metal orthoester is tetraisopropyltitanate.
32. The composition of Claim 26, wherein said alkyl phosphate is a monoalkyl phosphate having the formula $\text{R}_1\text{PO(OH)}_2$ or a dialkylphosphate having the formula $(\text{R}_2\text{O})(\text{R}_3\text{O})\text{PO(OH)}$, wherein each of R_1 , R_2 and R_3 is independently an alkyl.
- 350 33. The composition of Claim 32, wherein said alkyl group is a C_1 to C_{10} alkyl group.
34. The composition of Claim 32, wherein said alkyl group is a C_1 to C_5 alkyl group.
- 355 35. The composition of Claim 25, wherein said alkyl phosphate is amyl acid phosphate.
36. The composition of Claim 26, wherein said polymer is natural or synthetic polymer.
- 360 37. The composition of Claim 26, wherein said polymer is selected from the group consisting of polyurethane, polyurethane-urea, polyamide, polyester, polyacrylate, nitrocellulose and ketone-formaldehyde copolymer.
- 365 38. A method of improving the adhesion performance of an ink or coating composition comprising adding to said composition an agent comprising the reaction product of one or more polymers having a terminal or pendant hydroxyl group, or a terminal or pendent carboxyl group, or combinations thereof, and at least one metal complex and at least one alkyl phosphate.
- 370 39. The method of Claim 38 wherein the viscosity stability of an ink or coating composition is also enhanced.
40. The method of Claim 38, wherein said metal complex is metal orthoester.
41. The method of Claim 40, wherein said metal orthoester has the formula

- metal(OR)₄, wherein each of the four R groups is independently an alkyl group.
- 375 42. The method of Claim 41, wherein said alkyl group is a C₁ to C₈ alkyl group.
43. The method of Claim 41, wherein said alkyl group is a C₃ to C₄ alkyl group.
- 380 44. The method of Claim 40, wherein said metal orthoester is tetraisopropyltitanate.
45. The method of Claim 38, wherein said alkyl phosphate is a monoalkyl phosphate having the formula R₁PO(OH)₂ or a dialkylphosphate having the formula (R₂O)(R₃O)PO(OH), wherein each of R₁, R₂ and R₃ is independently an alkyl.
- 385 46. The method of Claim 45, wherein said alkyl group is a C₁ to C₁₀ alkyl group.
47. The method of Claim 45, wherein said alkyl group is a C₁ to C₅ alkyl group.
- 390 48. The method of Claim 38, wherein said alkyl phosphate is amyl acid phosphate.
49. The method of Claim 38, wherein said polymer is natural or synthetic polymer.
50. The method of Claim 38, wherein said polymer is selected from the group consisting of polyurethane, polyurethane-urea, polyamide, polyester, polyacrylate, nitrocellulose and ketone-formaldehyde copolymer.
- 395 51. A method of stabilizing the viscosity of an ink or coating composition comprising adding to said composition an agent comprising the reaction product of one or more polymers having a terminal or pendant hydroxyl group, or a terminal or pendent carboxyl group, or combinations thereof, with at least one metal complex and at least one alkyl phosphate.
- 400 52. The method of Claim 51, wherein said metal complex is metal orthoester.
53. The method of Claim 51, wherein said metal orthoester has the formula metal(OR)₄, wherein each of the four R groups is independently an alkyl group.
- 405 54. The method of Claim 53, wherein said alkyl group is a C₁ to C₈ alkyl group.

- 410 55. The method of Claim 53, wherein said alkyl group is a C₃ to C₄ alkyl group.
56. The method of Claim 51, wherein said metal orthoester is tetraisopropyltitanate.
57. The method of Claim 51, wherein said alkyl phosphate is a monoalkyl phosphate having the formula R₁PO(OH)₂ or a dialkylphosphate having the formula (R₂O)(R₃O)PO(OH), wherein each of R₁, R₂ and R₃ is independently an alkyl.
- 415 58. The method of Claim 57, wherein said alkyl group is a C₁ to C₁₀ alkyl group.
59. The method of Claim 57, wherein said alkyl group is a C₁ to C₅ alkyl group.
- 420 60. The method of Claim 51, wherein said alkyl phosphate is amyl acid phosphate.
61. The method of Claim 51, wherein said polymer is natural or synthetic polymer.
- 425 62. The method of Claim 51, wherein said polymer is selected from the group consisting of polyurethane, polyurethane-urea, polyamide, polyester, polyacrylate, nitrocellulose and ketone-formaldehyde copolymer.